

Rather, Watanabe teaches 1) extracting a possibly defective pixel by comparing data of one image plane with a first threshold value; 2) accumulating a value of image data of the possibly defective pixel by a predetermined number of exposure times; and 3) detecting a defective pixel by comparing the accumulated value of the possibly defective pixels with a second threshold value (see, for example, claim 1 of Watanabe). Furthermore, Watanabe teaches comparing the level of the image pick-up signal from each pixel of the CCD with a prescribed threshold value with the light not incident on the CCD and storing the position of the pixel outputting the image pick-up signal of an abnormal level in a register (see column 1, line 62 to column 2, line 1). Watanabe also teaches determining a defective pixel whether the pixel continuously attains the abnormal level for a predetermined number of times (for example, ten times) (see column 2, lines 1-6). However, Watanabe does not teach detecting a deficient pixel candidate based on a threshold value set in accordance with the signals of the plurality of peripheral pixels and determining a deficient pixel according to continuity of the deficient pixel over the plurality of screens. Because Watanabe detects a defective pixel with the light not incident on the CCD, it is necessary to previously obtain a threshold value before the defective pixel detection. In contrast, because the invention recited in claim 1 detects a deficient pixel candidate based on a threshold value set in accordance with the signals of the plurality of peripheral pixels, unlike Watanabe, it is not necessary to set pixels being in a light shielding state and previously obtain a threshold value. When shielding pixels, a mechanical shutter is conventionally attached to an image sensor. However, providing the mechanical shutter increases the size of whole of the image sensor and causes a problem when installing the sensor into a device, such as a cellular phone. As to this point, the invention recited in claim 1 has an advantage over Watanabe. For at least the reasons discussed above, we submit that the invention of claim 1 distinguishes over Watanabe.

Because claims 2-8 depend from independent claim 1, these claims are patentable for at least the same reasons that claim 1 is patentable.

With respect to dependent claims 9-10, Suzuki does not disclose the feature found to be lacking in Watanabe (U.S. Patent 5,854,655). Thus, dependent claims 9-10 are patentable for at

least the same reason that independent claim 1 is patentable. Similarly, with respect to dependent claim 11, Tan does not disclose the feature found to be lacking in Watanabe (U.S. Patent 5,854,655). Thus, dependent claim 11 is patentable for at least the same reason that independent claim 1 is patentable.

Independent claim 12

We submit that Watanabe does not teach or suggest a method of detecting a deficient pixel in a plurality of pixels associated with each of a plurality of screens including detecting a deficient pixel candidate by comparing a signal of a target pixel in one of the plurality of screens with a threshold value set in accordance with signals of a plurality of peripheral pixels adjacent to the target pixel ... repeating the recomparing step and the comparison result storing step a predetermined number of times over a plurality of screens, and detecting a deficient pixel in accordance with a plurality of comparison results obtained by the position storing step and the repeating step, as recited in independent claim 12. As discussed above, Watanabe teaches extracting a possible defective pixel in a very different manner and certainly not in accordance with signals of a plurality of peripheral pixels adjacent to the target pixel. Accordingly, the invention recited in claim 12 distinguishes over Watanabe. Because claims 13-15 depend from independent claim 12, those claims are patentable for at least the same reasons that claim 12 is patentable.

Independent claim 16

We submit that Watanabe does not teach or suggest a method of detecting a deficient pixel in a plurality of pixels associated with each of a plurality of screens including detecting a first deficient pixel candidate by comparing a signal of a target pixel in one of the plurality of screens with a threshold value set in accordance with signals of a plurality of peripheral pixels adjacent to the target pixel; and detecting a deficient pixel in accordance with position information of deficient pixel candidates acquired by repeating the second-deficient-pixel-candidate detecting step, the coincidence determining step, and the updating step by a

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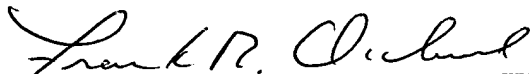
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predetermined number of times over a plurality of screens, as recited in claim 16. As discussed above, Watanabe teaches extracting a possible defective pixel in a very different manner and certainly not in accordance with signals of a plurality of peripheral pixels adjacent to the target pixel. Accordingly, the invention recited in claim 16 is patentably distinguishable over Watanabe. Because claims 17-18 depend from independent claim 16, those claims are patentable for at least the same reasons that claim 16 is patentable.

Please apply any other charges, not covered, or credits to deposit account 06-1050, referencing Attorney Docket Number 10449-022001.

Respectfully submitted,

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